Project Summary

Growing Green Communities (GGC) is strongly committed to protecting and preserving the land in the Camp Creek Watershed (Watershed) while also improving the water quality of Camp Creek by reducing sediment loading of the creek. To accomplish the primary goal of reducing soil loss, GGC worked with the Iowa Department of Natural Resources to identify areas of concentrated flow paths (CFPs) within the Watershed using Laser Imaging Detection and Ranging (LiDAR) topographic mapping technology. GGC and project partner Metro Waste Authority (MWA) worked with Watershed landowners to identify areas expected to have the greatest impact in reducing soil loss and to install best management practices (BMPs) at these areas. The BMPs were constructed and recorded as conservation easements to protect the BMPs and to reduce activities that could lead to soil loss. The easements were purchased by GGC and will be donated to a qualified conservation organization for long-term management and maintenance.

The Watershed Improvement Review Board (WIRB) was instrumental to the success of this project by awarding GGC funding to purchase conservation easements, acquire property for easement establishment, and construction of BMPs.

Financial Accountability

The financial aspect of the project changed from the original application as project work continued to evolve. The changes resulted in the WIRB-funded portion of the project being slightly larger than what was originally anticipated. The project financial details are summarized the Tables 1 and 2 below and discussed in the paragraphs that follow.

Table 1
Watershed Improvement Funds

Grant Agreement Budget Line Item	Total Funds Approved	Total Funds Expended	Available Funds
Easement Purchase/Land Acquisition	$280,000.00	$280,000.00	$0.00
BMP Construction	$42,500.00	$19,113.64	$23,386.36
Total	$322,500.00	$299,113.64	$23,386.36
Difference			$23,386.36

Table 2
Total Project Funding

	Cash		In-Kind Contributions		Total	
Funding Source	Approved Application Budget	Actual	Approved Application Budget	Actual	Approved Application Budget	Actual
WIRB	$322,500.00	$299,113.64			$322,500.00	$299,113.64
Growing Green Comm.	$75,000.00	$51,509.70			$75,000.00	$51,509.70
Metro Waste Authority	$75,000.00	$197,515.96			$75,000.00	$197,515.96
NRCS (In-Kind)			$70,000.00	$0.00	$70,000.00	$0.00
EQIP	$101,250.00	$0.00			$101,250.00	$0.00
MWA (Cash)	$0.00	$600.00			$0.00	$600.00
MWA (In-Kind)			$6,000.00	$0.00	$6,000.00	$0.00
Recipient	$56,250.00	$17,407.64			$56,250.00	$17,407.64
Totals	$706,000.00	$365,445.98			$706,000.00	$566,146.94

WIRB Contribution	Approved Application Budget	46%
	Actual	53%

The total project expenditures were $23,386.36 less than the approved application funds.

There was more difficulty in attracting landowners who were interested in participating than was originally anticipated. It was expected that the $7,000 per acre payment price for easement acquisition would be sufficiently attractive to generate considerable interest, but that did not occur. One challenge was that some potential participants were more interested in selling their land outright as opposed to selling the easement while retaining ownership of the land itself. For this reason, GGC requested an amendment to the grant agreement which expanded the allowable uses of the "Easement Acquisition" line item to include land purchase/acquisition. Easements were purchased from

The original application budget was calculated with the anticipation that 15 small-scale BMPs and protective easements would be used to repair gullies formed by CFPs, with approximately $10,000 – $20,000 ($17,000 average) being necessary to repair each. However, due to the somewhat limited interest as described above, larger BMPs and easements were the actual result. This resulted in the costs to implement the three BMPs being considerably less. However, the actual dollar values for the purchase of easements and land were the same amount as originally projected.

During the application development, an agreement was reached with GGC and the Natural Resources Conservation Service (NRCS) that the NRCS would provide in-kind engineering services for the design of the BMPs. Also, the NRCS Environmental Quality Incentives Program (EQIP) was expected to provide a major amount of funding to the project. However, the anticipated EQIP funding did not become available, which discouraged some landowners from participating in the project. Also, the NRCS engineering services were not needed due to the larger-scale BMPs being utilized compared to the expected smaller-scale specialized BMPs. The NRCS did design one BMP; however, the landowner chose not to participate when EQIP funds were not approved.

Engineering descriptions and legal surveys of the easement properties were significantly less than originally anticipated, so GGC did not expend the amounts estimated in the application.

As the landowner of Bartlema Farms was able to provide much of the labor to install and implement the BMPs on the Bartlema North and Bartlema South properties, the BMP construction costs were significantly reduced from what was anticipated.

The Gulling property was originally looked at as a potential participant in terms of the development and purchase of easements, but MWA was interested in the entire property, so MWA purchased the 42.5-acre parcel. 31.85 acres of the property was purchased by MWA at a cost of $178,450, 10.65 acres of the property was paid for by WIRB through GGC. 11.57 acres of the 42.5-acre land area was placed in an easement.

It is important to note that although the easement purchase/land acquisition portion of the WIRB-funded project was capped at 40 acres and the project period has ended, much more work to further the goals of the project are being performed by MWA at the Gulling property. The plan is to convert the property into a wetland bank, which will save an additional 410 tons of soil annually from being eroded off the land and delivered to Camp Creek.

Environmental Accountability

A total of forty (40) acres were designated to be established as conservation easements. The intention of the easements (See Figure 1) was to protect in perpetuity the BMPs installed and/or implemented to reduce soil loss. The forty acres acquired using WIRB funds include the following:

Gulling property:	10.65 acres	(Easement purchased from MWA)
Bartelma North:	3.23 acres	(Easement purchased from Bartelma Farms, Inc.)
Bartelma South:	26.12 acres	(Easement purchased from Bartelma Farms, Inc.)
Total	40.00 acres	

The Watershed Sediment Delivery Calculator (WSDC) was used to estimate the amount of soil loss that could be prevented annually from repair of gullies through the use of BMPs. Calculations of reductions in soil loss using the WSDC were performed by Mr. Brandon Dittman, who was serving as the Watershed Coordinator at the beginning of this project.

The Gulling property, encompassing a total of 42.5 acres, was purchased by MWA. Of this total, 11.57 acres were designated as a conservation easement; WIRB funds were used to acquire 10.65 acres of the easement. The easement itself encompassed one of the three identified CFPs on the property. A sediment catch basin addressed the CFP in the timber in the southern portion of the site. BMPs implemented by MWA for the entire site, including the easement area, resulted in a total reduction in soil loss of 695 tons per year, with 285 of that total being attributed to the repair of the timber gully BMP funded by WIRB. WIRB funds were used to purchase the easement from MWA. MWA will monitor the easement to ensure compliance with the easement agreement.

The Bartelma North property consists of 3.23 acres and contained one gully formed by a CFP. The gully channel was reformed and rip rap was placed to prevent further erosion. In addition, a cattle waterer and crossing were installed to reduce areas disturbed by cattle. The project will be seeded and monitored for vegetation establishment. Repair of this area resulted in a reduction in soil loss of 202 tons per year. WIRB funds were used to purchase the easement from Bartelma Farms, Inc. MWA will monitor the easement to ensure compliance with the easement agreement.

The Bartelma South property is 26.12 acres and contained a CFP forming a gully that feeds into Mill Creek very near its confluence with Camp Creek. Repair of this gully was performed by installing a sediment basin with an outlet in the flat bottom of the field. The intent of this water retention is to encourage the development of a wetland habitat in the easement area, which may reduce the nutrients entering Camp Creek in this area in addition to the primary goal of reducing soil loss. The upper portion of the Bartelma South property was seeded with native grass and forbs, and vegetative establishment is being monitored. This BMP was calculated to reduce soil loss by 119 tons per year. Photos of this project are included in Attachment A. WIRB funds were used to purchase the easement from Bartelma Farms, Inc. MWA will monitor the easement to ensure compliance with the easement agreement.

The three easement locations, plus the additional work performed by MWA on the Gulling property, resulted in a reduction in soil loss of 1,016 tons of soil per year, or 14.14 tons per acre per year. If the improvements directly funded by WIRB are used in the calculations, the number improves slightly to 14.81 tons per acre per year. This exceeds the goal set forth in the application of 10 tons per acre per year by almost 50%.

The original application budget was calculated with the anticipation that many small-scale BMPS and protective easements would be used to repair gullies formed by CFPs. As described above, larger BMPS

and easements were the actual result. However, WIRB contribution expended was comparable to what was projected.

Program Accountability

The primary goal of this project, as stated in the Plan of Work, was to: ”Reduce soil loss from landowner property and sediment delivery to Camp Creek Watershed by 10 tons per acre per year.” Using the WSDC, the following totals were calculated:

Gulling: 285 tons per year (11.57 acre easement, 10.65 acres WIRB-funded)

Bartelma North: 202 tons per year (3.23 acres)

Bartlema South: 119 tons per year (26.12 acres)

285 + 202 + 119 = 606 tons of soil per year saved by installing and protecting BMPs.

11.57 + 3.23 + 26.12 = 40.92 acres protected by conservation easements.

606 tons of soil / 40.92 acres = 14.81 tons of soil per acre per year preserved.

14.81 tons or soil per acre per year were preserved on landowner’s property and kept out of Camp Creek by this project.

Additional BMPs on the Gulling property funded by MWA preserved an additional 410 tons of soil.

GGC believes the approach used in this project is a way in which public funding can be used to reduce soil loss and in turn improve water quality in areas where the majority of the “streamside” properties are in private ownership. GGC hopes this project can be used as a model in other areas. To that end, part of the project activities involved creating a video that will be sent to state and federal officials and the United States Department of Agriculture to highlight the project and to promote this approach in other parts of Iowa and the country. Copies of this video will also be made available through other means, potentially including posting to YouTube or another online video sharing site and/or distributing DVDs to interested parties.

To promote the project, a press release summarizing the project activities and why soil conservation is important was send to the Des Moines Register, the Altoona Herald, WHO-TV, KCCI-TV, and the Des Moines Business Record.

Attachment A


DAEWOO
CATERP

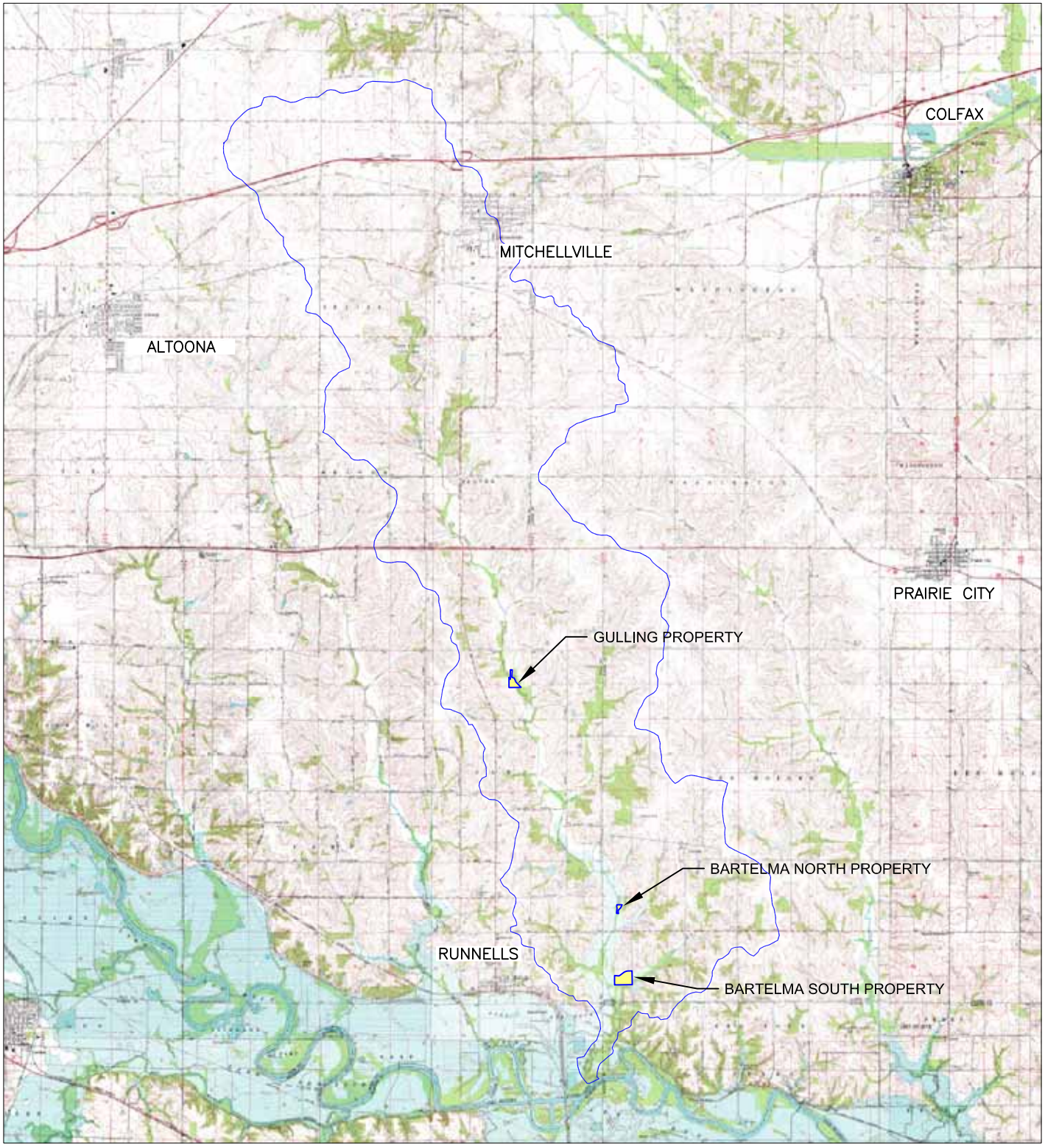

DAEWOO
CATERPILLAR

LEGEND

WATERSHED AREA

SCALE

0 2 MILES



CAMP CREEK WATERSHED AREA
GROWING GREEN COMMUNITIES
POLK/JASPER COUNTIES, IOWA
PROJECT NO. METDT 10004
DRAWING DATE: APRIL 2013

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